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EUROPEAN PATENT APPLICATION

⑪ Application number: **86402219.9**

⑫ Date of filing: **07.10.86**

⑬ Int. Cl.⁴: **A 61 K 31/47**

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A 61 K 31/40, A 61 K 31/495,

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CH DE FR GB IT LI NL

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The title of the invention has been amended (Guidelines for Examination in the EPO, A-III, 7.3).

⑳ Use of angiotensin-converting enzyme inhibitors in macular degeneration.

㉑ Angiotensin converting enzyme inhibitors are useful in the treatment of senile macular degeneration.

EP 0 220 107 A2

<u>Company Code</u>	<u>Chemical Name</u>
CI-925	2-[2-[[1-(1-(ethoxycarbonyl)-3-phenylpropyl)amino]-1-oxopropyl-6,7-dimethoxy-1,2,3,4-tetrahydro-3-isoquinolinecarboxylic acid.
CGS-14824a	3-[[1-ethoxycarbonyl-3-phenyl-(1S)propyl]amino]-2,3,4,5-tetrahydro-2-oxo-1-(3S)-benzazepine-1-acetic acid HCl.
CGS-14831	3-[[1-carboxylate-3-phenyl-1(S)-propyl]amino]-2,3,4,5-tetrahydro-2-oxo-1(3S)-benzazepine-1-acetic acid HCl.
CI-928	2[2-[[1-carbonyl-3-phenylpropyl]-amino]-1-oxopropyl]-1,2,3,4-tetrahydro-3-isoquinoline-carboxylic acid.
SQ-28853	[1-(S)-4S]-4-[[2-[6-(aminosulfonyl)-7-chloro-1,2,3,4-tetrahydro-4-oxo-2-quinazolinyl]ethyl]-thio]-1-(3-mercapto-2-methyl-1-oxo-propyl)-L-proline monosodium salt.

EXAMPLE 1**Dry Filled Capsule**

	<u>Per Capsule</u>	5
Enalapril	50 mg	
Lactose	149 mg	10
Magnesium Stearate	<u>1 mg</u>	15
Capsule (Size No. 1)	200 mg	

The active compound is reduced to a No. 60 Powder and then lactose and magnesium stearate are passed through a No. 60 bolting cloth onto the powder and the combined ingredients are mixed for 10 minutes and filled into the No. 1 dry gelatin capsule.

Any of the other ACE inhibitors can be substituted for enalapril in the above Example 1.

EXAMPLE 2**Tablet**

A typical tablet contains captopril (25 mg), pregelatinized starch USP (82 mg), microcrystalline cellulose (82 mg) and magnesium stearate (1 mg). In like manner, for example, N-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline (20 mg) may be formulated in place of N-(1(S)-ethoxycarbonyl-3-phenylpropyl)-L-alanyl-L-proline with the composition of pregelatinized starch, microcrystalline cellulose and magnesium stearate described above.

Any of the other ACE inhibitors can be substituted for captopril in the above Example 2.

EXAMPLE 3**Injectable**

A typical injectable formulation contains enalaprilat (5.42 mg), sodium phosphate dibasic anhydrous (11.4 mg), benzyl alcohol (0.01 ml), and water for injection (1.0 ml). Similarly, this formulation can be Prepared employing, for example, N-(1(S)-carboxy-3-phenylpropyl)-L-lysyl-L-proline in place of N-(1(S)-ethoxycarbonyl-3-phenylpropyl)-L-alanyl-L-proline.

Claims

1. A pharmaceutical composition useful for the treatment of senile macular degeneration which comprises, as an active substance, an angiotensin converting enzyme inhibitor which is selected from : enalapril, enalaprilat, lisinopril, captopril, ranipril, perindopril, zofenopril, quinapril, pentopril, cilazapril, piovopril, fosenopril, indolapril, indalaprill, phenacein, fentiapril, alacepril, perindopril, murgenic acid, ancovenin, CI 925, CGS 14824a, CGS 14831, WY 44221, CI 928, SQ 28853, SQ 27786, CGS 16617, MC 838, K 26.

2. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is enalapril.

3. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is lisinopril.

4. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is enalaprilat.

5. The pharmaceutical composition of Claim 1 wherein the angiotensin converting enzyme inhibitor is captopril.

6. The pharmaceutical composition of Claims 1-5, which comprises an appropriate vehicle for an oral, a transdermal or a parenteral administration.

7. Use of an angiot nsin converting enzyme inhibitor as listed in claim 1 for the manufacture of a pharmaceutical composition useful for the treatment of senile macular degeneration.

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Angiotensin converting enzyme inhibitors are
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ation.

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	R. BERKOW et al.: "The merck manual of diagnosis and therapy", 14th edition, 1982, pages 2002-2003, Merck & Co., Inc. * Pages 2002-2003: "Senile macular degeneration" * -----	1,7	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 03-05-1989	Examiner GAC G.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			